content ourselves by thus referring to; it is too long to quote, and too good to condense.

Two solitary tufts of two Alpine plants were also detected on this occasion. One, *Helichrysum Colensoi*, the edelweiss of New Zealand, was found on the edge of the top of a mountain composed entirely of dry shingle of various sizes, from big lumps to dust. The other, *Geum parviflorum*, grew near the former, but, unlike it, has been found on the South Island. This first attempt to cross the range failed, though its summit was reached; but a second attempt, made in February, 1847, was successful. A short sojourn was made at Matuku, the principal of the Patea villages; the route thereto was the long round-about by Taupo. From Matuku, on March 25, the ascent of the Ruahine was made, and the Mission Station at Waitanga was reached on March 3, after many hardships and difficulties. The narrative abounds in numerous records of great interest. The following is an account of one of the largest, we suspect, of flower visitors, honey-seekers, and one unknown to Darwin or Hermann Müller:—

"Close to the village, and even within its fence, were several very large Kewhai trees (*Edwardsia grandiflora*); these were covered with their golden flowers, and mostly without leaves. The sun was shining brightly, and the parrots (*Nestor meridionalis*) flocked screaming from the forests around to the Edwardsia blooms; it was a strange sight to see them, how deftly they managed to go out to the end of a long lithe branch (preferring to walk parrot fashion), and there, swinging back downwards, lick out the honey with their big tongues, without injuring the young fruit . . . For, seeing but very few petals falling (and those only vexillæ), I sent some of the boys to climb the trees and bring me several marked flowering branches, which had been visited by the parrots. I found that all of the fully expanded flowers had had the upper part of their calyces torn open, and the uppermost petal (vexillum) torn out; this the parrots had done to get at the honey. As the flowers are produced in large thick bunches, some are necessarily twisted or turned upside down; still it was always that peculiar petal and that part of the calyx (though often in such cases undermost) which had been torn away. Through this no injury was done to the young fruit inclosed, which would in all probability have been the case if any of the other petals had been bitten off. It cannot be said that it is owing to the vexillum being the largest petal (as it is in many papilionaceous flowers) that it is thus laid hold of and torn away by the parrot, such not being the case in this genus: for the long fruit runs down through the two carinated lowermost petals, that are often quite two inches long, and is further protected by the two side ones (alæ), which four, from their being closely imbricated together, form a much larger and firmer hold for the bird's beak.

"Further, as these parrots are large birds with huge bills, and as the flowers are always produced on the tips of the small branches, which bend and play about under the weight of their bodies, one cannot but suppose that it is no easy matter for the birds to get a bite at them at all, so as to make the proper openings whereby to insert their thick tongues and lick out the sweet contents without injuring the young immature fruits, especially when we further consider that the common practice of this parrot is to take up in its claws whatever it wishes to discuss. Of all the flowers I examined, only the upper part of the calyx and corolla had been torn, and on none was the young fruit wanting, nor did I notice any bunches which had had their flowers wholly torn off. What with the glistening snow, the sun shining, and the golden blossoms of those trees, the numerous parrots diligently and fearlessly at work so close to the village, yet often screaming, it was altogether a peculiar and interesting sight."

What delightful corners for the botanist are to be met with in this range the next paragraph will show. Many of the species are of the greatest interest—quite Alpine gems; and some few of them, or of closely-allied species, grow freely with us. We would be prepared to welcome them all.

"In the open ground, on two or three mound-like hills of peaty-looking soil, and near each other, on the west side, grew that remarkably fine Ranunculus, *R. insignis.* On my discovering it I was astonished at its size—its largest golden flowers being nearly 2 inches in diameter, its flowering stems 3 to 4 feet high, and some of its round crenated leaves measuring 8 to 9 inches across! Both Sir Joseph Hooker and his father were equally surprised and delighted, and as it was (then) by far the largest species known, Sir Joseph Hooker gave it that appropriate specific name—*insignis.* I only found it in that locality, but it was in great plenty; its principal neighbour was the notorious Tamarea plant (*Aciphylla Colensoi*), already fully noticed; and those splendid compositaceous plants *Celmisia spectabilis* and *C. incana*, which generally grew close together, forming large, dark-green, shining patches, and bearing a profusion of fine white flowers—a striking contrast to their leaves. At first sight I saw that this new Ranunculus was closely allied to *R. pinguis*, of Lord Auckland's group and Campbell's Island—then lately described in the "Flora Antarctica," of which work I had received an early part just before I left the station. Other plants of those far-off Antarctic islets were also found here, on the summits—notably *Oreobolis pumilio*, growing in dense tufts in exposed places; while the peculiar straggling *Cyathodes empetrifolia*, and the pretty little flowering-plants *Euphrasia antarctica* and *Myosotis antarctica* flourished in half-sheltered hollows with *Plantago Brownii* and the grass *Catabrosa antarctica.* With these last also grew, very closely intermixed (much as we have seen the daisies and buttercups among low turfy grasses in our English meadows), the curious plant *Drapetes dieffenbachii;* the little elegant *Ourisia cæspitosa*, abounding in flowers; a very small and new species of Plantago (*P. uniflora*); and a similar-sized botanical novelty, *Astelia linearis*, a tiny plant bearing a large orange-coloured fruit; a little Caltha (*C. Novæ Zealandiæ*), having pale, star-like flowers; two graceful Gentians (*G. montana* and *G. pleurogynoides*), and a very small, shrubby, prostrate Coprosma (*C. pumila*), together with several elegant, shrubby little Veronicæ. Two orchideous plants, *Pterostylis foliata* and *Caladenia bifolia* (of which I wished for better specimens), I also detected growing sparingly, and with them a couple of Carices, *C. acicularis* and *C. inversa*, and also two species of Uncinia, *U. divaricata* and *U. filiformis;* and with them several interesting Hepaticæ and Mosses. Only in one or two spots, in shady, sheltered places near the top, and just within the forest, did I meet with that pretty little plant, *Ourisia Colensoi*, but in those spots there were plenty of them, and always beautifully in flower; the plants of this species grew apart, as if they liked room—in this respect differing altogether from the other species of this genus I have seen."

The lover of flowers can easily judge from these extracts how interesting to them would be this memoir of the now venerable explorer; there is much more of the like nature throughout its pages, and we trust the Hawke's Bay Philosophical Institute will send some copies of this "In Memoriam" narrative to this country, on sale for their benefit.

NOTES

THERE will be a *conversazione* at the Royal Society on Wednesday next, June 10.

THE *conversazione* of Sir F. Bramwell, the President of the Institution of Civil Engineers, will be held in the International

Exhibition Buildings, South Kensington, to-morrow evening, from nine to twelve. The Society of Arts *conversazione* will be held in the same place on July 3 next.

A PUBLIC meeting has been held in Birmingham to make preliminary arrangements for the reception of the British Association for the Advancement of Science on its visit to Birmingham in 1886. The mayor, Mr. Alderman Martineau, presided, and there was a large attendance. After referring to the four previous visits of the Association to Birmingham, the last of which was in 1865, the mayor stated that the forthcoming visit would involve a large amount of preliminary work, for which arrangements had to be made by the appointment of local committees. The meeting would probably be under the presidency of Principal Dawson, of Montreal. A large local committee was appointed, together with honorary officers, and the meeting terminated with a vote of thanks to the mayor.

THE statue to Linnæus which was recently unveiled with so much ceremony in Stockholm, stands in the well-known park Humlegården. It represents the "flower-king"—as he is called in Sweden—at the age of sixty in a meditating attitude, holding the "Systema Naturæ" and a bunch of flowers in his left hand. It is surrounded by allegorical female figures representing botany, zoology, medicine, and mineralogy, and is executed by Prof. Kjelberg, the work having occupied five years.

A ZOOLOGICAL garden is being formed in Stockholm, at the well-known pleasure resort of Djurgården, which will be the first of its kind in Scandinavia. Most of the animals are being purchased in Germany.

THE Rede Lecture was delivered on Tuesday in the Senate House at Cambridge by Mr. G. J. Romanes, F.R.S., the subject being "Mind and Motion."

THE *Central News* has received a telegram from Bombay announcing that a fearful earthquake has devastated a portion of Cashmere. The first shocks were experienced on Sunday, and created intense consternation. The oscillation was repeated at intervals of about ten minutes, and the shocks still continued up to the time the despatch was sent off. A wild panic is stated to have seized upon the people, who ran to the rivers and lakes, and sought to escape by embarking upon floating craft of any description. The town of Srinagar seems to have suffered severely. A great portion of the city is stated to have been demolished by the most severe shocks. Later accounts state that although some severe shocks have occurred in Cashmere, the loss has been trifling.

A SMART shock of earthquake was felt in Cape Town and the surrounding districts shortly before midnight on May 10, but no damage was reported.

THE results of a series of observations carried out by the Hydrographical Bureau at Washington, in order to determine the length, depth, and duration of ocean waves, have been published. The largest wave observed is said to have had a length of half a mile, and to have spent itself in 23 seconds. During storms in the North Atlantic waves sometimes extend to a length of 500 and 600 feet, and last from 10 to 11 seconds. The most careful measurements of the heights of waves give from 44 to 48 feet as an extreme limit; the average height of great waves is about 30 feet. These measurements refer to ordinary marine action, and do not relate to earthquake action or other exceptional agencies.

A CORRESPONDENT to *Ausland* makes a communication regarding the present condition of the artesian wells in Sahara. It is well known that such wells have been in operation there from a very remote period, and in the Algerian Sahara additional wells have been opened with considerable success by the French. Between Biskra and Tuggurt the 434 old wells yielded in 1879 64,000 litres of water per minute, the 68 French ones 113,000 litres. The number of palms had increased from 359,000 to 517,000, that of other fruit-trees from 40,000 to 90,000, the population from 6672 to 12,827. In December, 1881, the yield of water from the wells had risen to 209,000 litres per minute. But this success is confined to a narrow zone within which water can be reached within a depth of 100 metres, and even here the borings that have been made since 1881 indicate a diminution in the yield of water, making it appear as if the limit of production of the underground reservoirs had almost been reached. Many of the French borings, too, are getting stopped up by sand, and are of too small calibre to be cleaned out and restored like the wider Arabic ones. It is believed that it will be absolutely necessary to set about the sinking of new wells with a wider bore.

DR. ANDRÉE, of Leipzig, discussed before a recent meeting of the Anthropological Society of Vienna the question whether iron was known in America in pre-Columbian times. Meteoric iron was certainly in use amongst certain Indian tribes and the Esquimaux, but Dr. Andrée thinks that they were wholly unacquainted with the art of forging iron. This conclusion is based on the fact, among others, that while there is ample proof that the Indians knew how to obtain and employ gold, silver, tin, copper, quicksilver, &c., we hear nothing of iron mines in the history of the civilisation of ancient America. The language itself proves this, for there is no expression for *iron*. Some writers, it is true, speak of the word *panilgue* as that for iron, but it really means metal in general. Moreover, in pre-historic, or rather pre-Columbian, graves, especially in the rainless regions of Peru and Northern Chili, ornaments of all kinds, weapons and implements are found, but no objects in iron have been discovered, although the Indians placed their most valued articles in their tombs. There is no reason, he thinks, to believe that the tools employed in the great masonry works of Peru, such as that at Tiahuanaco, were other than those in use in the rest of Peru, which were of *champi*, a species of bronze. The chisels found in Peruvian graves soon become blunted when used on the hard strut; but it is suggested that there was some method of sharpening them easily. Indians certainly have worked a hard stone like nephrite without iron; and there is no improbability, says the writer, in the theory that these chisels were employed, when we recollect the patient temperament of the Indians, who for generations were accustomed to the repetition of the same work, to indolently pursuing an uniform task, and also that *gutta cavat lapidem*.

BEFORE the last meeting of the Asiatic Society of Japan (reported in the *Japan Weekly Mail*) Mr. H. Pryer read a paper entitled "Notes on the *Mustela itatsi* and on the *Corvus japonensis*, Bonaparte." The paper was largely a criticism of views advanced by Dr. Brauns regarding the generic affinities of these animals, and published in the Society's *Transactions*. A series of comparative measurements of the beak, metatarsus and wing of the *Corvus corax* and *Corvus japonensis* were given, with comparisons of the tail, eggs, and larynx, which proved that they were not identical. It was suggested that Dr. Brauns' specimen of the *Corvus japonensis* was really a specimen of the *Corvus corone*.

THE *Johns Hopkins University Circular* for May contains the abstract of a paper by Mr. Donaldson, entitled "Observations on Temperature-Sense." Blix, of Upsala, and Eulenberg, of Berlin, have observed that there are definite points on the skin at which sensations of cold only are aroused; others, distinct from the first and equally definite, for the sensation of heat, while between these two sets of spots sensations of pressure only are aroused. These reactions were obtained by electrical and thermal stimulation of the skin. Mr. Donaldson, whose attention had previously been attracted to the subject, endeavoured to make accurate maps of these cold and hot spots. It was found that their distribution on corresponding parts differed in different individuals, that the distribution on symmetrical parts of the body was different, that the number of cold spots was greater than the number of hot spots, that the relative abundance of the two kinds varied in different parts of the skin, and that, roughly speaking, there are two grades of spots, viz. those which react almost always and those which react only half the time and with a comparatively faint sensation. The spots, as a rule, are less than a millimetre in diameter, and they are easily exhausted. The sensation roused by a single stimulus often lasts, however, for some minutes after the removal of the stimulus. As the thermally sensitive spots move about as the skin moves, it is clear that they are in the skin and not below. On being cut from the skin and examined, the spots showed no structures with which the sensations could be associated. The spots were found quite as sensitive on scars as on the sound skin. Using the radiant-heat method described by Pollitzer, the hot spots were found to respond from eight to forty times more quickly to a given stimulus than the not-hot ones. The explanation of any sensation of heat on the not-hot spots appears to be that there is conducting heat through the skin, so that the stimulus finally reaches a hot spot.

THE death is announced of Mr. Alexander Croall, Curator of the Smith Institute, Stirling, and a botanist of some reputation.

WE have just received Band v. of the *Verhandlungen des Vereins für naturwissenchaftliche Unterhaltung zu Hamburg*, 1878–1882; the title-page bears the date 1883; it appears to have been published in monthly numbers. Was Band v. actually published until 1885? There is no internal evidence against its appearance in 1883, but we fail to find any reference to certain papers in it in the published records for that year. This ambiguity as to date is awkward. The contents are varied and valuable, and embrace natural history in its broadest sense, as will be seen from the titles of some of the papers, such as "Die Umgestaltung unserer Gegend durch Wasser und Wind und die Abnahme des Wassers in unserem Gebiete;" "Die Variabilität der Schmetterlinge in ihren verschiedenen Entwickelungs-Stadien, und der biologische Werth von Form, Farbe, und Zeichnung;" "Die Entwickelung unserer Kenntnisse der Länder im Süden von Amerika;" "Hammer und Messer in der Sprachgeschichte;" "Haben auch in Deutschland gleichzeitig mit dem Mammuth Menschen gelebt?" "Die Insel Rotumah und ihre Bewohner;" "Mittheilungen über einen Taifun bei Jokohama und Jeddo," &c. Of the papers enumerated that on typhoons seems especially interesting on account of the analyses given of the reports of various ship-captains. There are several zoological and botanical papers, in addition to the one already quoted.

THE new annual report of the Canadian Minister of Agriculture to the Governor-General contains, for the first time, the report of the Dominion entomologist, Mr. James Fletcher. The Minister explains that as an acquaintance with the results of entomological science is a matter of necessity to every tiller of the soil, he took the step of appointing an official entomologist in order that the attention of those whose interests are materially affected might be called to the subject. As Mr. Fletcher was only appointed in June last year, his report is necessarily a preliminary one. He has succeeded in establishing a system of correspondence all over the Dominion, and from extracts of letters which are published in his report it is clear that he has ample work before him. In parts of Nova Scotia, for example, the cultivation of wheat has had to be abandoned, on account of the wheat-midge, or *Diplosis tritici*. In other places, clover, peas, roots, fruit and forest trees have suffered heavily by the ravages of various insects. The position of entomologists, therefore, is one with large possibilities of material benefit to the Dominion and its inhabitants.

A SERIES of photographs of lightning flashes were lately obtained at Berlin by Dr. Kayser, and are the subject of a paper to the Academy there (*Wied. Ann.*, No. 5). The lightning is shown (as previously) to have gone very often from one point to several, the aspect in the photograph being like that of a river with numerous tributaries (only the fluid takes the opposite direction). The weaker flashes did not so branch out. In one remarkable effect the stem consists not of one bright line only, but of four parallel throughout, the second being rather a band, and stratified transversely. The explanation Dr. Kayser offers is, that in this case there was an oscillating discharge. The first spark, in passing from cloud to earth, would leave a channel of heated air, which would be used by the next spark from earth to cloud, only it was meanwhile a little displaced by the wind; and so with the others. Such oscillatory discharges may sometimes be observed with the eye in violent thunderstorms if the oscillation be pretty slow. Dr. Kayser reckons the whole phenomenon in the present case to have occurred in less than half a second. The stratified appearance of the band he is unable to account for.

THE eels of the ponds in the woods of Vincennes leave them every spring in large numbers, making their way to the Seine or the Marne, several kilometres distant. They take advantage of rainy weather, when the herbage is wet, and their instinct guides them directly to their destination. New species have repeatedly been introduced into the lakes, but in vain; all seem to have this disposition to leave. Some have thought that the water of these ponds, having been brought by hydraulic engines, has undergone some change which drives the eels away. But the phenomenon of such migrations by eels and some other fishes is not uncommon. Thus in the marshes of Picardy eels are often found on the grass, going from one pond to another.

THE reports of the Aëronautical Society of Great Britain for the years 1883 and 1884 have just been issued together in a small volume. It is mainly occupied by papers read before the Society. Amongst these is one on the mechanics of flight and their application to flying machines, by Mr. H. Middleton; artificial flight attainable by Mr. Hollands; the possibility of man-flight, by Mr. Barry; on the methods of soaring birds, and the bearing of the facts connected with them, by Mr. J. Lancaster, of Chicago. Amongst the shorter papers are: a visit to the Aëronautical Exhibition at Paris, by Mr. Frost; a memoir of Mr. John Stringfellow, by Mr. Brearey; a light and economical motor for propulsion in air, by Capt. Griffiths; and conjoint gas and mechanical action as applied to flight, by Mr. Brearey.

AN aëronautical exhibition under the patronage of the Aëronautical Society of Great Britain is to be opened during the present month in connection with the International Exhibition at the Alexandra Palace. The objects for exhibition will be models of designs for the accomplishment of aërial navigation by mechanical means only, or partly by buoyancy and partly by mechanical means; objects which are capable of flight and carrying their own motive power; machines constructed upon a scale calculated to carry a weight equal to that of a man upon the principles advocated by the inventors; light motors; balloons, navigable or otherwise; balloon material; kites, or similar aërial appliances, for saving life at sea, or for traction; and other objects of interest connected with aëronautics. The large outdoor space will be made available for various competitions, such as the nearest approach to a given locality. The disputed question of aërial locomotion by the aid of buoyancy will also be conclusively tested.

THE scientific society, Isis, of Dresden, having recently attained the fiftieth year of its existence, has issued a special jubilee or festival number of its *Proceedings*. It was founded in 1834, at the end of which year it had 27 members, and in 1835 it was reorganised and called Isis. During the first thirty years of its existence the Society was fortunate in having in keeping a single president, Dr. Reichenbach, whose lectures were mainly instrumental in the formation of the Society. In 1860 the twenty-fifth anniversary of the founding was celebrated with much ceremony, and as the occasion was also Reichenbach's jubilee, the double event was commemorated by the establishment of a memorial fund which bore his name, and the income from which was to be devoted to the support of a Saxon student travelling for zoological investigation. A record was then issued of the work of the Society so far; the number before us carries on the story for another twenty-five years, thus completing the history of the half century. The 27 members of 1835 have swollen to about 465 in 1885, and progress in other directions has been in proportion. In addition to the secretary's record of the advances of the last quarter of a century, the *Festschrift* contains a paper by Prof. Stelzner on the development of the methods of petrographic investigation during the last fifty years, and one by Herr Töpler on the history of discoveries in electromagnetism and inductional electricity. Most of the remaining papers deal with local science, such traces of animals in the coal formations of Zwickau, and several others on subjects connected chiefly with Dresden and its neighbourhood. The Society starts on the second half of the first century of its existence with ample vigour and promise of an unlimited lease of existence and activity.

ON May 22, at about 6.30 p.m., a mirage was seen from Visby, on the island of Gothland, in the Baltic. It appeared out at sea, on the western horizon, and represented a town on both sides, surrounded by high forest-clad mountains, which seemed to be within a distance of only a few miles. A large vessel with three masts lay in front of the town. The mirage lasted a couple of minutes, when it suddenly disappeared.

ONE hundred thousand shad have been reared in the United States during the last year, to say nothing of other species of fish, the exact number of which it is impossible to compute. It will be remembered that the shad was once exceedingly prolific in the Thames, but owing to the impure state of the river their numerical proportions have decreased to a very large extent. The Fish Commissioners of America have acted wisely in acclimatising the shad to their own waters, it being a valuable fish and easy of cultivation.

A SHORT time since we commented upon the enormous quantities of rats which infested the Health Exhibition, but which entirely disappeared shortly after it closed. Soon after the present Inventions Exhibition opened, these pests commenced to reappear, and their numbers are daily increasing. The authorities would do well to check their movements before they assume gigantic proportions.

ALTHOUGH the Professorship of Anatomy and Histology at the University of Lund has been twice officially announced vacant no applicant has come forward. It will now have to remain unoccupied till 1886.

THE Mexican Government has at length determined to undertake a geological survey of the whole country, as far as practicable. 10,000 dollars have been assigned for preliminary expenses.

WE have received from Messrs. Theiler and Sons specimens of their Universal Pocket Microscope and their Demonstration Microscope. The former magnifies 50 diameters, while the latter, intended for "schools and the drawing-room," has three powers—30, 100, and 150 diameters. They are both very admirable contrivances, and should be in the hands of all young people. The definition and achromatism of the Demonstration Microscope are perfect.

THE additions to the Zoological Society's Gardens during the past week include two Javan Cats (*Felis javanensis*), a Marbled Cat (*Felis marmorata*) from Malacca, presented by Mr. Frank Swettenham; a Common Marmoset (*Hapale jacchus*) from Brazil, presented by Dr. L. Morgan; a Slender-billed Cockatoo (*Cacatua tenuirostris*) from Australia, presented by Mrs. E. H. Watson; two Tuatera Lizards (*Sphenodon punctata*) from New Zealand, presented by Prof. T. J. Parker; a Smooth Snake (*Coronella lævis*), a Common Viper (*Vipera berus*), British, presented by Mr. W. H. B. Pain; a Slender-billed Cockatoo (*Cacatua tenuirostris*) from Australia, thirteen Tuatera Lizards (*Sphenodon punctata*) from New Zealand, deposited; an Osprey (*Pandion haliaetus*), caught in the North Sea, purchased; a Darwin's Rhea (*Rhea darwini*) from Patagonia, received in exchange; a Hog Deer (*Cervus porcinus* ♂), two Four-horned Antelopes (*Tetraceros quadricornis*), two Prairie Marmots (*Arctomys ludovicianus*), two Long-fronted Gerbilles (*Gerbillus longifrons*), born in the Gardens.

OUR ASTRONOMICAL COLUMN

THE OBSERVATORY OF PARIS.—Rear-Admiral Mouchez has issued his report on the work of this establishment during the year 1884. The completion of the re-observation of Lalande's stars has led to a new disposition of the meridian-instruments, one of which, on the proposal of M. Lœwy, is now occupied with the determination of a number of circumpolar stars on his new method; the great meridian-circle and the circle of Gambey are still employed for observations of the minor planets, and of comparison-stars for planets, comets, and nebulæ observed with the equatorials. The great telescope of 0·74 m. is still unmounted, no suitable position being available in the present state of the grounds of the Observatory. M. Mouchez mentions having received communications from the authorities in Algeria, referring to the possibility of obtaining from the local budget the greater part of the sum that would be required to mount the instrument at the Observatory of Algiers on the summit of the Boudjaréah—an exceptionally favourable situation, which might be visited by the astronomers of the Paris Observatory for special observations, but the Council of the latter institution have not availed themselves of the proposition, in the hope that the equatorial may yet be erected at Paris. Amongst the observations made with the instruments in the west tower and the Henry equatorial, are many of the satellites of Uranus and Neptune, the companion of Sirius, the belts of Uranus, nebulæ, and double-stars. MM. Henry have been occupied with astronomical photography during the year, and, as is well known, with great success; various clusters of stars have been photographed, and M. Mouchez appends to his report a reproduction by heliogravure of a plate of the great clusters in Perseus. A trace of the motion of the minor planet Pallas was shown after an exposure of thirty-five minutes. The important results obtained by MM. Henry in photographing very small stars in those crowded parts of the heavens where the Galaxy crosses the ecliptic have been already referred to in this column. Steady progress has been made both with the calculations and printing of the Paris Catalogue of Stars, and it is expected that the first volume of both series (star-positions as observed, and catalogue) will be completed by the end of the year. Vol. xviii. of the *Mémoires* is finished. The Report further details the personal work of the members of the Observatory staff. Amongst the additions to the Museum is a portrait of Pons, presented by M. Tempel.

The Report for the year 1884 is preceded by one which enters specially into the present condition of a scheme for removing the principal instruments in the Observatory to a site where not only greater steadiness can be secured in their mounting but where the objections of being surrounded by a great city will not exist. It appears that the Academy of Sciences have not, so far, favoured this scheme. M. Mouchez states very clearly his view of the question.

THE COMET TEMPEL-SWIFT (1869–80).—M. Bossert, of Paris, is engaged upon the determination of the orbit of this comet, which may be expected to reach perihelion again about May, 1886, the period of revolution being rather less than 5½ years. Since the last perihelion passage on November 8, 1880,